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ABSTRACT

Britain's Secretary of State for Education and Sciences assesses the future for higher education in Britain. The British system of higher education is outlined as background, and common developments in the field in Britain and the United States are noted: (1) the end of the rapid expansion in funds; (2) the atmosphere of doubt as to what the public is getting in higher education: (3) issues of academic standards as traditionally conceived and the need for educational alternatives; and (4) demographic trends that indicate a decrease in audience for higher education. Substantial statistical data and analyses are provided in the cases of the second and fourth developments. It is concluded that the central nature of the teaching function is essential in any attempt to take higher education into new areas. The only way to bring continuing education to disadvantaged and other new groups will be to improve the effectiveness of teaching. It is proposed that this requires: training academics to present their subjects well, an area largely neglected, and recognizing the significance of the teaching function in reaching out to groups to whom manner of presentation is an important consideration. It is felt that in valuing the teaching function more highly than is often done, higher education can be brought to new segments of the population. (MSE)

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HIGHER EDUCATION RESURGENCE OR DECLINE?

Britain's Secretary of State for Education and Science Assesses the Future

Shirley Williams

HE013 205

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HIGHER EDUCATION RESURGENCE OR DECLINE?*

Shirley Williams

BACKGROUND: THE BRITISH SYSTEM OF HIGHER EDUCATION

I would like to begin by setting the context in which we operate in British Higher Education. Then, as I discuss the problems of British higher education, I think you will see that they are part of the larger question of the future of higher education—of whether we are at some sort of crossroads and whether we are in the state of crisis that so many people talk about with respect to the United States, Canada and Britain.

In America, considerable discussion has focused on the problem of how to reconcile substantial central government funding with university autonomy. I don't know whether we in Britain have the right answer, but at least we have an answer that has met the test of time over the past 30 or 40 years: that is, the institution of the University Grants Committee, which stands midway between central government (which in the British case provides more than 80 percent of all the funding of the universities and colleges of higher education) and the universities themselves, who retain a very high level of institutional autonomy. The University Grants Committee undertakes the distribution of central government funds to each institution. It has a larger proportion of representatives from the academic world than from any other single group. Thus, the Committee represents the academic world (and the industrial world and an element of the school teaching world; it also suggests who should be appointed to it, and it has become customary that these suggestions are accepted by the central government. In this strange and rather subtle relationship, it would be virtually unthinkable for central government to directly speak to an individual university institution, and it would certainly be unthinkable for central government to directly interfere with an individual university. As for institutions in the public sector, they must by law have a governing body and will invariably have an academic board. The academic board has a majority of academic representatives and is in charge of the course structure of the individual institution. The governing body represents a much wider slice of the community, but again there is no question of there being a predominance of anybody appointed from government or local government sources. That, broadly, is the structure of higher education in Britain, and I describe it simply because it looks to me as if the United States is going to have to work out some form of structure under which there is an intervening body between its institutions and its growing federal funding. I don't know whether ours is suitable, but I can say that it works reasonably well and has preserved a great deal of autonomy in a system that is overwhelmingly central-government financed.

The difference between the U.S. and British systems is greatest in the admissions process. Yours is a more wide-open system, with a spectrum of institutions that may insist upon various entrance qualifications based on Scholastic Aptitude Tests and so forth, but without a single national examination through which all applicants have to pass. In our system, the national examination for the Advanced-Level of the General Certificate of Education, a highly specialized exam taken at 18, is the gateway to higher education. You cannot get in to higher education at all, whether in the public sector or in the university sector (the university sector is not private in your sense, but autonomous), without having passed at least this examination. Once you do pass it, you have a right to a course in higher education; and once you have been offered a place, you have a right to a means-tested maintenance award, and a right to free tuition—which is now generally available to all home students. Academically, it is a closed system to which the exam is the inescapable gateway. Socially, it is an open system because once you've got your place through an exam, the state has an obligation to support you according to your means, and if your means are limited, that support is a substantial award that covers maintenance as well as tuition fees. The system is guided by a central principle, the so-called Robbins principle: "Courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so."

COMMON DEVELOPMENTS IN THE U.S. AND BRITAIN

During the past few years, there have been four developments in both our countries. First, the "party"—in the sense of a very rapid expansion of financial resources for higher education—is over in Britain, just as it is in the United States. The 1960's were characterized by a growing rate of expenditure on higher education, of student demand for higher education, and of resources for re-

*Edited from a transcript

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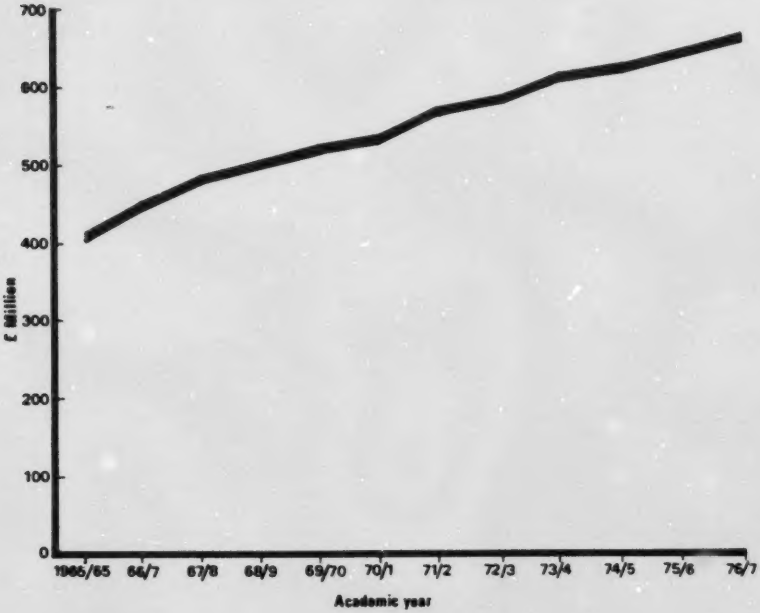
EXPENDITURE ON UNIVERSITIES IN GREAT BRITAIN* AT CONSTANT 1977 PRICES



*Excludes open University

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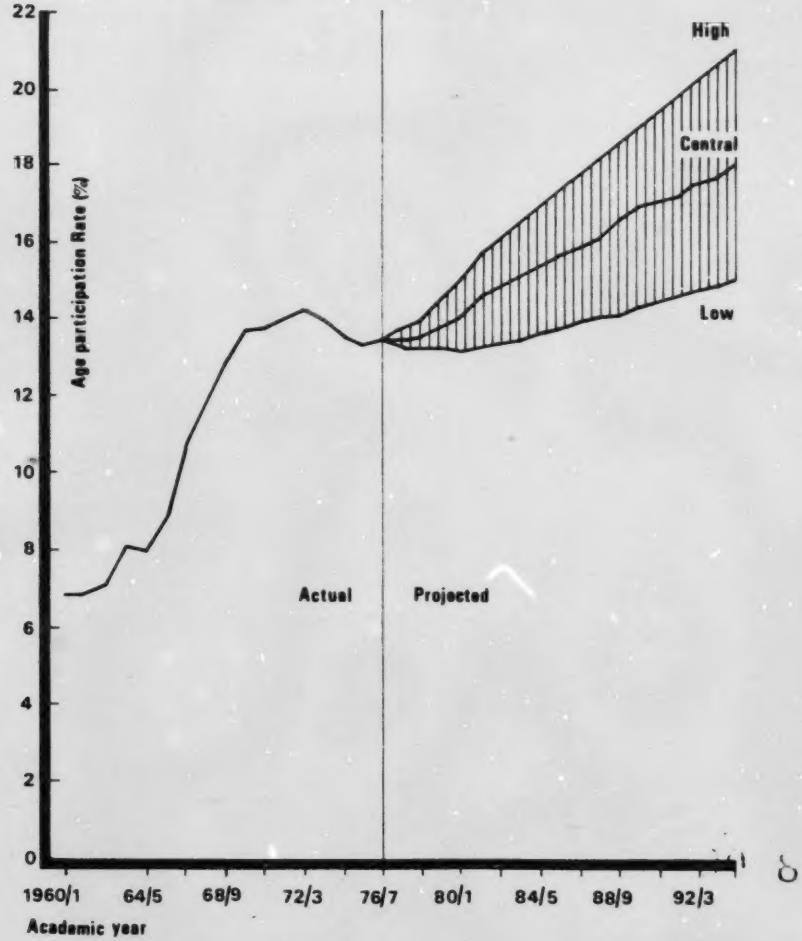
② AGE PARTICIPATION RATES

Higher education full-time and sandwich students: Actual and variant projections to 1994/95, Great Britain



search. In the field of scientific research, there was a rate of growth of between 6 and 7 percent in real terms in the early years of the 1960's, followed by a slowing down throughout the latter part of the decade and into the 1970's. Now something that has been close to stability over the past couple of years is giving way to a very slow rate of growth. The phrase used by an American academic to me only a few months ago, "things are not better but we are getting used to it," is one that we might apply to both our countries. We could also say, things are getting so minutely better that we don't notice the change. This situation is illustrated by Table 1, which shows the rate of growth in expenditure in real terms in the universities and the "polytechnics" in Britain. Allowing for a rate of growth in enrollments, this still indicates that the graph is levelling out and towards the end of the period, as is evident in following tables, the rate of growth slows right down. I suspect that is true in the U.S. as well.

The second development common to Britain and the United States is the atmosphere of doubt about whether society is getting a reasonable return from its investment in higher education. The questions are being raised both by students and by society in general. In the case of students, the conventional view that the aim of all academically able youngsters is to get into higher education is no longer as easy to argue in Britain as it once was; I suspect the same is true in the United States. We in Britain are certainly seeing, as you are, a flattening out of the rate at which young people participate in higher education—granted the size of the age groups. Table 2 shows a colossal rate of increase in Britain in the willingness of 18-year-olds to participate in higher education between 1960 and 1972-73. This shows a quite astonishing opening up of higher education to whole groups who had never considered it before, and the age-participation rate rose from about 6.5 percent in 1960 to 14 percent twelve years later. It has persistently stuck there ever since. Enrollments in higher education first reflected the rise in the age groups, climbing from 179,000 in 1960/61 to 303,000 in 1965/66, they reached 514,000 in 1976/77, and have moved very little since. We seem to be up against a limit in the willingness of young people, when faced with the academic barrier, to get through it and go on to a higher education.

There is one interesting fact worth drawing attention to in comparing our system with yours, since it may be relevant to you at a later stage. We suspected there would be a very marked change in the wastage rate from higher education, granted the move away from conventional life styles. In the British system, this has traditionally been around 16 percent, of which roughly half has been a failure rate and half a voluntary drop-out rate; in other words, about 7 to 8 percent can be attributed to failure at some point during the full degree course, and a similar percentage attributed to illness or other reasons. The strange thing is that this wastage rate has not changed very much, although there are great differences between institutions. Why does it stay at this very low level? I think the answer is to be found in the fact that the basic relationship in British higher education, to a greater extent than any other country in the world, is the student-teacher relationship: to put it in rather crude terms, we nanny our students through a very intensive, short degree-course system under which the student is almost certain to receive a highly marketable commodity—namely, in most cases, an honours degree. Also, I do not underestimate the effect of unemployment, which has produced a return to a more conventional psychology in higher education than I believe would exist if unemployment were not a major factor in the enrollment decision for young people in all our societies. We are back, if you like, to a short-haired generation, though I don't believe that represents a great tide of social development so much as the current economic climate, which has caught up our young people as much as it has everyone else.

COMPARATIVE DATA ON SCIENTIFIC RESEARCH

The question of a growing doubt in society about whether the resources needed for higher education are justified—in the way in which they were thought to be in the 1960s—can be illustrated in the correlation between expenditure on scientific research (most of it at universities and colleges of higher education) and its impact on the general standard of living. In the 1960's, many people argued—from the university side, and in particular from the science-faculty side—that expenditure on scientific research would have a visible and clear spin-off in material benefits to society; in other words, that there would be a correlation between economic growth and scientific research in higher education. Many of us still believe that.*

*In Britain we have, to an even greater extent than you, what is called a "dual support system," under which the University Grants Committee funds accommodation and capital equipment and the Research Councils provide the funding of individual research projects undertaken within universities and elsewhere. Thus the term "dual support": the floor is provided by university and polytechnic financing, and the superstructure by specific research funding, in our case by the Research Councils, the closest parallel being with the National Science Foundation or the National Institute of Health.

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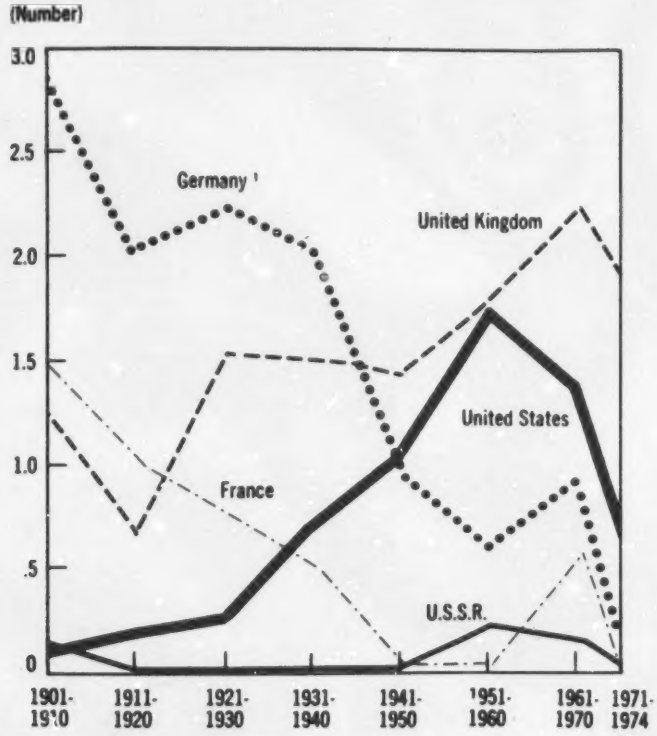
Nobel Prizes in Science per 10 Million Population for Selected Countries, 1960-1974



¹ After 1945, excludes the German Democratic Republic.
SOURCE: The Nobel Foundation.

Source The Nobel Foundation as published in Science Indicators 1974 (National Science Board 1975)

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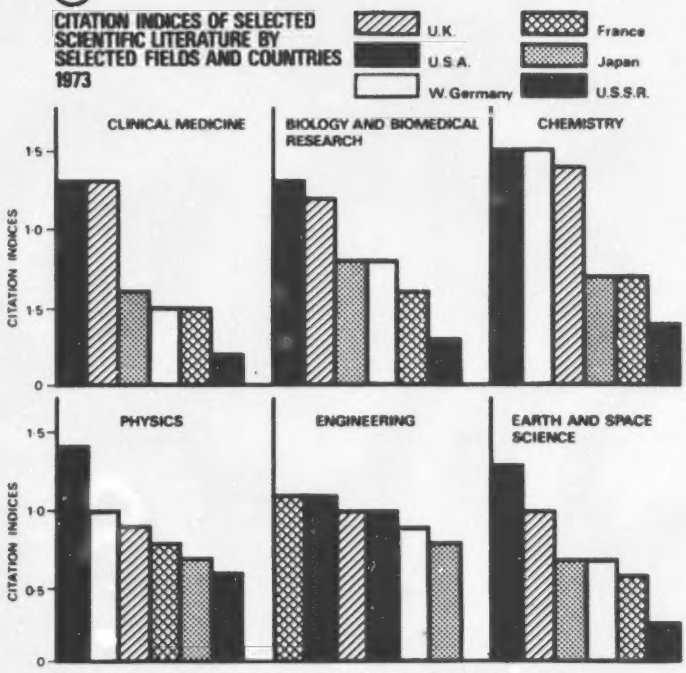
CITATION INDICES OF SELECTED SCIENTIFIC LITERATURE BY SELECTED FIELDS AND COUNTRIES 1973



Source: Science Indicators 1974 (National Science Board 1975)

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Table 3 indicates the level of achievement of scientific research in the United Kingdom. The figures show the number of Nobel prize winners, in proportion to population, in all the countries that have visible numbers of Nobel prize winners—that is to say, numbers running into two figures. There has been a major decline in Germany, no doubt not unrelated to what happened to the Jewish community in the 1920's and 1930's. In France, there was a rapid decline before the war, followed by a sharp rise and then a decline afterwards. The Soviet Union shows a rather less impressive performance than one might have expected, but with some marked improvement after the end of the Second World War. In the United States, there was a massive increase, followed by a rather dramatic decline in the 1960's; and in the United Kingdom, there was similar line, with a steady and very rapid increase initially, and in the past few years something of a decline, partly attributable to the fact that more Nobel prizes are going to individuals in other countries. What this shows is that in the very highly selective field of basic research, the achievements of the United States and the United Kingdom predominate in proportional terms.

Table 4 shows citation indices (using American figures) of important scientific papers, by major scientific field in selected countries. The data apply mostly to basic research. One sees the predominance, again, of the United States and the United Kingdom—though in engineering France comes out strongly, and in physics and chemistry, so does West Germany. But again, the citations show that across the board the United States and the United Kingdom hold predominance. Table 5 shows major technological innovations by countries, and here the United States is overwhelmingly predominant. The interesting thing is that both West Germany and Japan come in rather low on

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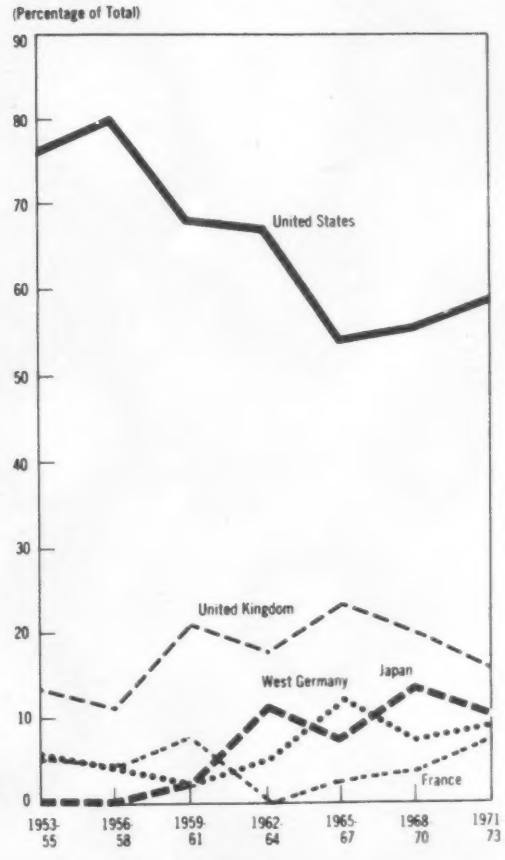
Major Technological Innovations, by Selected Countries, 1953-73



SOURCE: Gellman Research Associates, Inc.

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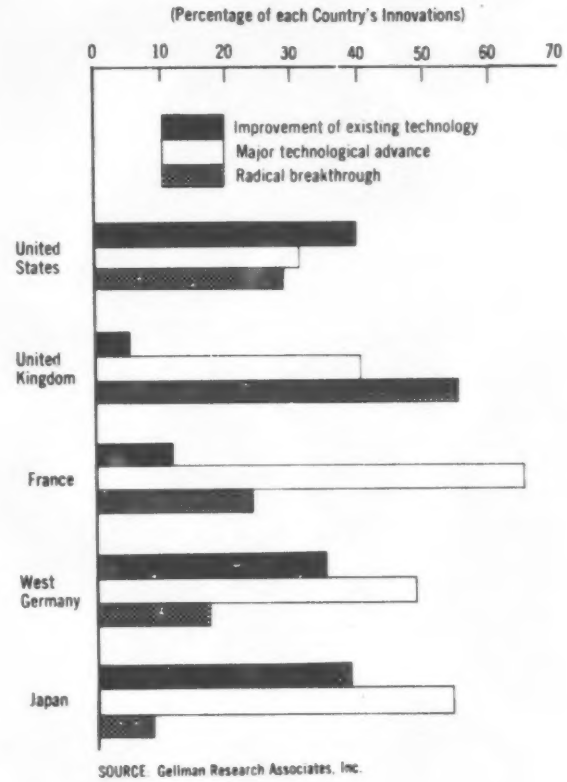
"Radicalness" of Innovations, by Selected Countries, 1953-73



SOURCE: Gellman Research Associates, Inc.

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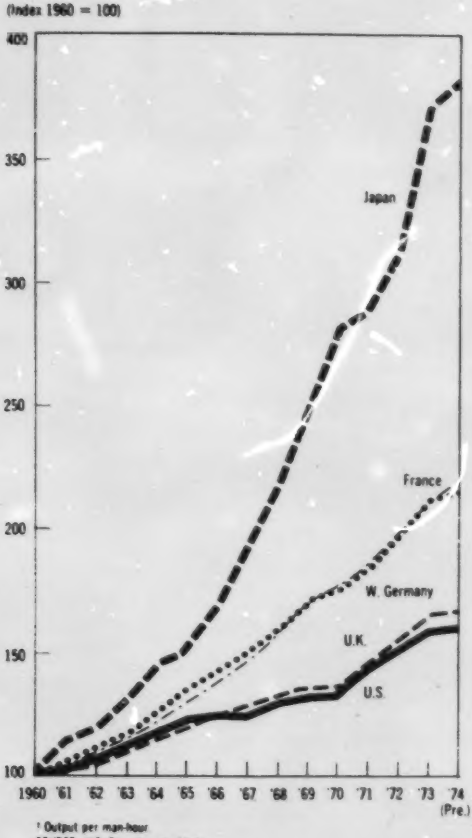
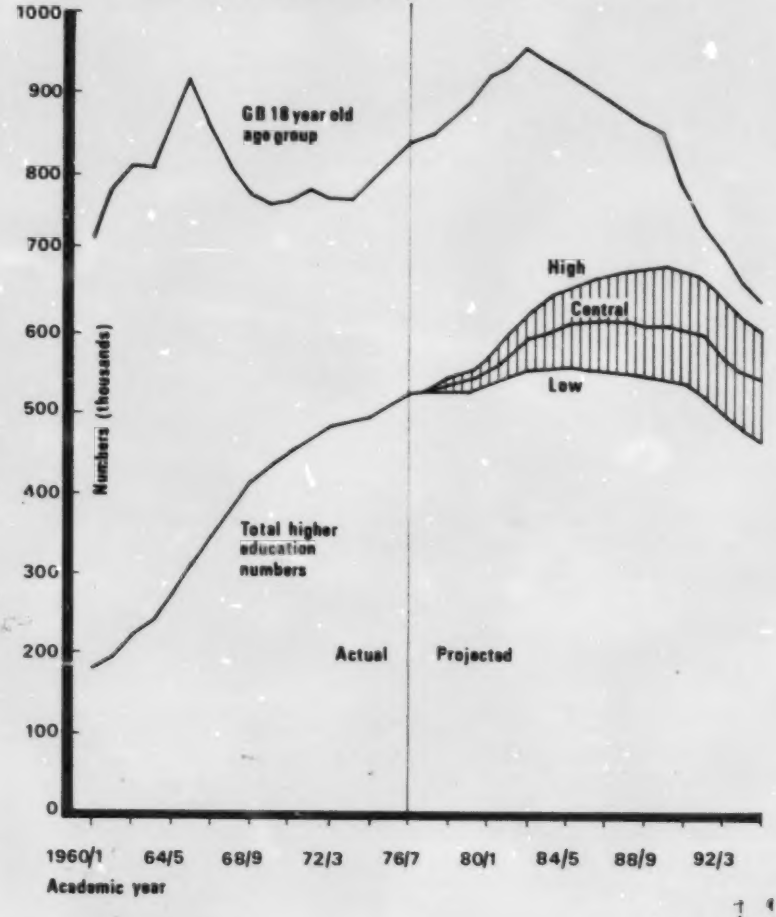
Productivity[1] in Manufacturing Industries, by Selected Countries, 1960-74



[1] Output per man-hour
SOURCE U.S. Department of Labor

⑧ 18 YEAR OLD POPULATION and total full–time and sandwich students in higher education, Great Britain



the table in terms of their own technological innovations. Table 6 indicates the degree of "radicalness" of innovations: in the United States, the single most important factor has been the improvement of existing technology; whereas in the United Kingdom, it has been the radical breakthrough into a new generation of technology; and in France, major technological advances have been made within the paradigms of the existing technology. In Japan, there has been a mixture—but this indicates again the nature of technological innovation. What this table says about the United Kingdom is that, once again, the breakthroughs in technology are being made in the high-science field, mainly in the universities and research institutes, but not to the same extent within industry—which is much more likely to produce an improvement of existing technology. Table 7 makes one question the worth of the preceding data. It shows Japan's productivity going up like a rocket, despite its lack of technological innovation, lack of citation of scientific papers or of major scientific discoveries, and lack of Nobel prize winners. In other words, the correlation between innovation and productivity appears to be a negative one. I am not saying this because I believe it to be true, but because it is perhaps not particularly strange that much of the world outside higher education is not as overwhelmingly enthusiastic about higher education or about research funding as it used to be.

Also, the concept of students as a political class—which began in France and spread, to some extent, to the United States, Canada and Britain does not make higher education notably popular with the society beyoun the walls.

STANDARDS IN HIGHER EDUCATION

Two other problems merit discussion here: the problem of what the standards in higher education are all about, and the question of whether we ought to be more concerned about competence-based education, relevance, and the social outreach of higher education, or whether we should cling to the concept of standards and the pursuit of truth, academic scholarship, and so on. We in Britain have to try to graft on to our system (which has never asked itself whether the goals of higher education ought to be anything but the pursuit of truth, academic scholarship, and high academic standards) a whole set of other opportunities and linkages and bridging courses which will enable it to reach out to a much wider section of society. While we start with a core of beliefs about standards, about which questions have not been asked, you start with a spectrum in which you ask the question, Can high academic standards survive in this sort of spectrum, or how much are they under attack? They are different propositions, and I think there are different answers to be found.

DEMOGRAPHIC TRENDS

Common to both our countries is the demographic ebb tide shown in Table 8. Table 8 is ours, but it might as well be yours. It compares the numbers of 18-year-olds in the total population and those expected to enroll in higher education, from 1960-1961 to 1992-1993. We know already that there will be a dramatic decline, a very steep decline indeed, from about 1988 onwards. The United States, I understand, will also be going through a massive decline. The decline, I suggest, is of such a dramatic nature that it could destroy the self-confidence of higher education system, and it could create planning problems so complex that we have not yet attempted to find answers to them. In my own country we have looked at this demographic ebb tide. The figures are worth mentioning: we reached 900,000 18-year-olds in 1965; we fell back to 740,000 18-year-olds in 1969—but they were offset by the rising participation rate; we will go back to 900,000 18-year-olds in 1980, and we will go down to 620,000 19-year-olds in 1995. If the participation rate does not improve, that would signify a one-third decline in those entering higher education. This raises, I think, a number of questions.

Implications for Faculty

First, the question of who will teach these students. Table 9 shows the average age of full professors in 1972 in Great Britain. The proportion of 40-to-49 year-olds among full professors, heads of departments and people at that level illustrates the very little chance younger faculty will have of promotion to full professorial positions, granted the sanctity of tenure in the United Kingdom system. In 1976 the situation had changed very little; it simply moved up a bit. The prospect of much relief due to retirement, which is essentially between the ages of 65 and 69 in our country

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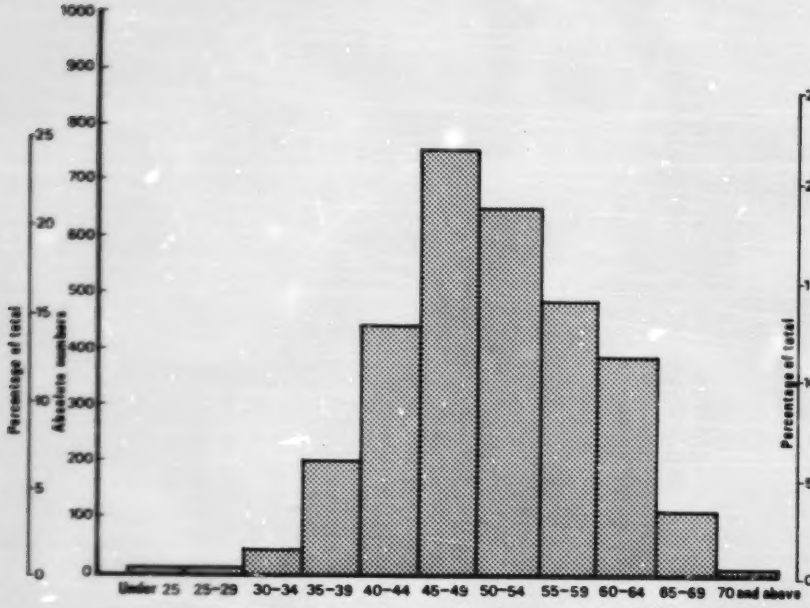
AGE DISTRIBUTION OF UNIVERSITY PROFESSORS 1972

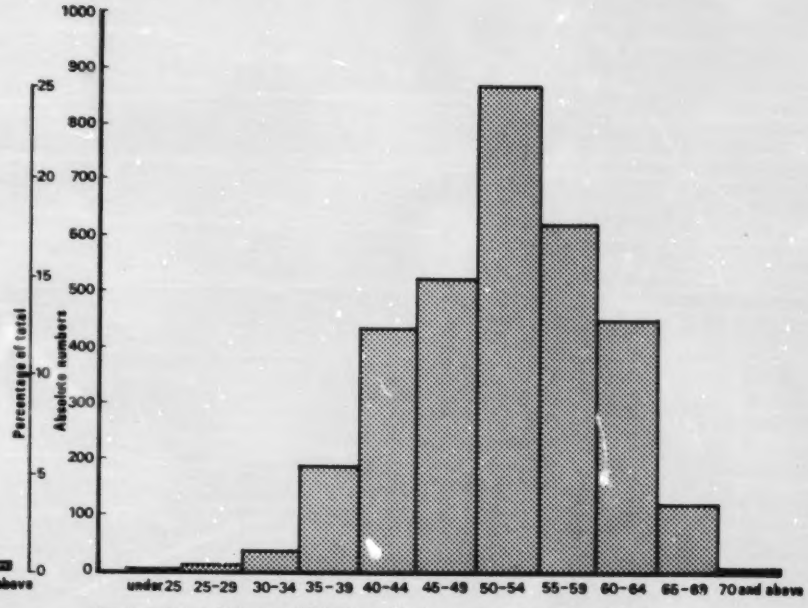
All subjects, total (non-clinical, wholly financed by Universities), Great Britain



Age distribution of those aged 55 and over has been estimated from data for other years

AGE DISTRIBUTION OF UNIVERSITY PROFESSORS 1976

All subjects, total (non-clinical, wholly financed by Universities) Great Britain

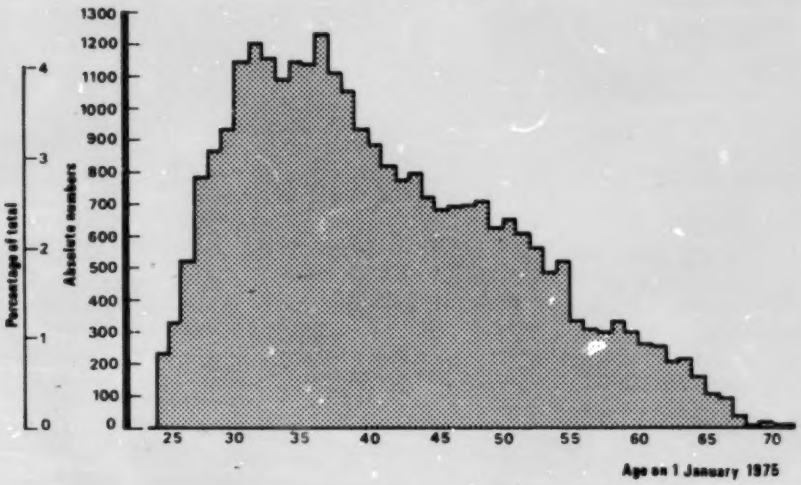


Age distribution of those aged 55 and over has been estimated from data for other years

is minute. Fitting in the people already in line will be a terrible problem, and the prospects for those under 39 to become full professors are very slight. Table 10 shows the age distribution of academic staff, which incidentally is very similar to your own. The nature of the problem becomes evident in the overwhelming number of tenured academics piled up in the 25-to-40 age group. A comparison of Tables 9 and 10 indicates that we, and I suspect you, too, face a virtually stagnant system. This is particularly bad for those who are working in the field of research, because to a great extent research is a young person's game, rather like chess. This is particularly true of research in the sciences, where in our case, and I think also in your case, the age structure is even more adverse. There is virtually no prospect of people leaving through retirement until beyond the year 2000, because the rate of growth in the 1960's was so rapid. So we will have to look afresh at the problems of how to deal with a tenured, secure profession which will face highly able young men and women beating at its doors with little chance of getting an academic post, and with little chance of promotion if they do get an academic post—and with all the dangers of settling into a solid, lasting mediocracy.

⑩ **AGE DISTRIBUTION OF UNIVERSITY ACADEMIC STAFF**

All subjects total (non-clinical, wholly financed by universities) Great Britain



Implications for Research.

Among the other things we in Britain are thinking about is whether the balance between teaching and research is sacred. Perhaps there ought to be ways to set up a promotion stream for people of exceptional teaching ability, much of which is less age-related than research ability, especially in the sciences. This would enable us to create some largely teaching institutions, whose greatness would be in their ability to teach rather than in their publications and their ability to do research. This may be easier for Britain to implement, because teaching has always been a much more respected element in our structure of higher education and a more fundamental requirement of appointment to secure positions. It would call for a spectrum of institutions between teaching and research, in which posts could be of either kind. Much of the teaching would have to be teaching of groups who do not now participate in higher education. Next, we have to create (and we are beginning to) financial support for teams of researchers, which would continue for 5 to 7 years while the research is undertaken. This would bypass the tenure system and allow such teams to enter permanent positions at a later stage, having proven their ability. The Royal Society in Britain is now considering the financing of leaders of research groups—young men and women in their late 20's and early 30's—for a period of time. They would be linked to a particular university, but financed outside that university. The researchers would have a period in which to prove themselves, enabling us to winnow out the very best and save the very best. We will have to recognise that some who are just below the best will not have the opportunity that they would have had a generation ago.

Implications for University Planning

Can higher education offset the effects of the demographic pattern by introducing a new group of people to redress the enrollment balance? Our higher planning projection is based upon an assumption that we will bring in new groups, of different ages, of different social backgrounds and so forth, to redress the balance of the population decline. Even our low projection is a markeldy optimistic one; none of the projections decline as fast as the population of 18 year olds. We have put before our universities various alternatives—and this again illustrates the curious "hands-off" relationship we have between government and higher education institutions in the United Kingdom. We have said to the institutions, "Look, there are five possible models."

Model 1 is simply to expand and contract with the number of students. The government provides the capital and the current revenue on a basic per-capita expenditure per student, which means that we would go up and down budgetarily, just as the population in higher education goes up and down. For U.S. educators, granted that they build buildings which last 30 or 40 years—this would be a fairly daft way to solve the problem, but still it is a possibility.

Model 2 is to smooth out the population peak by abandoning the Robbins principle for the peak age group, and to say that a smaller proportion of the age group can move into higher education. It is difficult to do in a system where the Robbins principle is operative, because it is unfair that a particular generation, or half of a generation, should have lesser opportunities than their older rothers or sisters. I suspect, therefore, that politically this would be extremely difficult.

Model 3 provides short-term contracts for essentially temporary responses to the demographic peak—for instance, the use of graduate students to a much greater extent for teaching duties (which do very little of in the United Kingdom, compared to the U.S.; teaching is essentially a faculty responsibility, not a graduate—student responsibility in the United Kingdom). We could use the graduate students as a kind of buffer stock that could expand and contract. We could expand in the years of peak population and contract afterwards. We could provide temporary accommodation by renting or by using short-term buildings to take care of the peaks, recognizing that both the contracts and the accommodation would have a short life and could be taken out of the system after 5 or 10 years. Model 4 involves the possibility of a range of two-year courses. For instance, we have a diploma of higher education rather like those in your liberal-arts colleges, to which part of the demand could be diverted. We could also make an effort to defer the peak, rather as it was deferred in the U.S. at the time of the Vietnam war—but I hope for more amiable reasons—by telling people that an award will be paid to them at a higher level if they defer entry to higher education for a year or two.

The final model is an attempt to bring into being, by 1985, a whole range of efforts including continuing education, new forms of education, education for mature students, paid educational leave, career development, and so on so, that we need to fit into the formal higher education structure. In our case this requires making linkages: what I think we have to do is to create both a credit system and a bridging-course system. Bridging courses would take people from compulsory education, put them on the ladder of a one- or two-year, full-time course, and bring them up to the Robbins entry level, so that they can enter our form of higher education at that stage. In other words, we are much more likely than you to deal with disadvantaged groups, with ethnic minorities and so forth by establishing bridging courses—which are financed separately and which get people up to the two 'A' level requirements for entry to higher education—than we are to drop the two 'A' level requirements.

STUDENT AID IN BRITAIN

Last, I want to say something about student awards, because I think that this is important in your terms and in ours. I have been very interested by the argument about grants versus tax allowances in the United States. It may be interesting to you to know how we resolve this. Any student who gets a place in higher education in Britain is entitled by that very fact to a financial award. Nowadays, he or she automatically gets the tuition fee paid, regardless of wealth, providing that he is a student resident in the United Kingdom. The prospective student then has an entitlement, if this is his first course in higher education, to a maintenance award for food, lodgings and so forth—but that right is qualified by being based upon a means test of his parents. We have the same problem as you do in classifying the student who has broken with his parents and who sees himself as independent, and like you we haven't resolved this. If he qualifies for support, the student gets

a rate of maintenance which is about $2000 a year for the years of his degree course, and that roughly will cover his maintenance—not at a very high level, but it is enough to live on. At least 90 percent of our higher education students get some sort of award, and of these, about 40 percent get full mandatory awards. What we are doing now is removing the child tax allowances; we are in the middle year of removing allowances to parents for boys and girls in full-time education. We are using this revenue to offset the means test, in other words to reduce the contribution that parents have to make to their sons' and daughters' maintenance. The tax allowance is being recycled into the award system to make the award system more generous.

CONCLUSION: THE IMPORTANCE OF TEACHING

At present there are about 9 students to every one full-time, tenured member of staff in universities; that is an overall ratio for all subjects. The ratio is better than that for the hard sciences—more like 7 to 1. It is rather worse for the social sciences—more like 11 or 12 to 1, but the overall average holds at 9 to 1, and the 1 leaves out graduate students and does not include anyone who is not, in your sense, tenured—that is to say, assistant lecturers and above. Now we are allowing that ratio to deteriorate 10 to 1 over the next four or five years, with, in effect, a guarantee that we will not go beyond 10 to 1. The important point about this is that it makes the problem of the stagnation of the teaching profession much worse because we have very little room to improve the staff-student ratio. The British system of higher education is only justified in terms of an intensive, short degree course and an extremely low failure rate. It illustrates dramatically the central nature of the teaching function in the British University. So the conclusion I want to put to you is that the central nature of the teaching function is essential in any attempt to take higher education into new areas. The Open University is in many ways the most radical innovation that has come from our country in the past generation. It has been a pioneer in moving into areas of the population where higher education had not been generally accepted or understood, though even the Open University would admit that something like three quarters of its students are people with some previous experience of further education or higher education—often in teacher training colleges and so on. But if we are to press on, as you want to do, and as we must do, to bring continuing education to disadvantaged groups, to whole new areas of the population who are only marginally touched by higher education, then it will only be done by effective teaching. Effective teaching, in my view, involves training academics to present their subjects well; this kind of training is still largely neglected. It involves recognising the significance of the teaching function in reaching out to groups to whom the manner of presentation is important. Good teaching must be high among the things we value in the academic world, and we must value it in salary terms. I believe that universities have a very important function in maintaining the principle of verification, in maintaining high objective standards—and to use the old-fashioned terminology, in the pursuit of truth; but I also believe that in valuing the teaching function more highly than we have often done, we can bring these concepts to whole new areas of the population. In my view, this is essential for the health of any popular democracy.

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